

(d) a polypeptide which has a relative mannanase activity of at least 60% after incubation for 20 minutes at 40° C and any pH in the range of 7.5-10 and an amino acid sequence that is at least 80% homologous with the polypeptide of (a) or (b).

2 75. The mannanase of claim ~~74~~<sup>1</sup>, which is encoded by the mannanase encoding part of the DNA sequence cloned into the plasmid present in *Escherichia coli* DSM 12197.

3 76. The mannanase of claim ~~74~~<sup>1</sup>, which has a sequence comprising amino acids 32-330 of SEQ ID NO: 2.

4 77. The mannanase of claim ~~74~~<sup>1</sup>, which has a sequence comprising amino acids 32-490 of SEQ ID NO: 2.

E20 5 78. The mannanase of claim ~~74~~<sup>1</sup>, which is a fragment of the sequence of amino acids 32-330 of SEQ ID NO: 2, wherein the fragment has mannanase activity.

6 79. The mannanase of claim ~~74~~<sup>1</sup>, which is a fragment of the sequence of amino acids 32-490, wherein the fragment has mannanase activity.

7 80. The mannanase of claim ~~74~~<sup>1</sup>, which has a relative mannanase activity of at least 60% after incubation for 20 minutes at 40° C and any pH in the range of 7.5-10 and an amino acid sequence that is at least 80% homologous with the polypeptide having an amino acid sequence of residues 32-330 of SEQ ID NO: 2.

8 81. The mannanase of claim ~~80~~<sup>7</sup>, which has an amino acid sequence that is at least 85% homologous with the polypeptide having an amino acid sequence of residues 32-330 of SEQ ID NO: 2.

9 82. The mannanase of claim ~~81~~<sup>8</sup>, which has an amino acid sequence that is at least 90% homologous with the polypeptide having an amino acid sequence of residues 32-330 of SEQ ID NO: 2.

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- 10 83. The mannanase of claim 82, which has an amino acid sequence that is at least 95% homologous with the polypeptide having an amino acid sequence of residues 32-330 of SEQ ID NO: 2.

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- 11 84. The mannanase of claim 86, which has an amino acid sequence that is at least 98% homologous with the polypeptide having an amino acid sequence of residues 32-330 of SEQ ID NO: 2.

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- 12 85. The mannanase of claim 74, which has a relative mannanase activity of at least 60% after incubation for 20 minutes at 40° C and any pH in the range of 7.5-10 and an amino acid sequence that is at least 80% homologous with the polypeptide having an amino acid sequence of residues 32-490 of SEQ ID NO: 2.

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- E20 13 86. The mannanase of claim 85, which has an amino acid sequence that is at least 85% homologous with the polypeptide having an amino acid sequence of residues 32-490 of SEQ ID NO: 2.

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- 14 87. The mannanase of claim 86, which has an amino acid sequence that is at least 90% homologous with the polypeptide having an amino acid sequence of residues 32-490 of SEQ ID NO: 2.

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- 15 88. The mannanase of claim 87, which has an amino acid sequence that is at least 95% homologous with the polypeptide having an amino acid sequence of residues 32-490 of SEQ ID NO: 2.

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- 16 89. The mannanase of claim 88, which has an amino acid sequence that is at least 98% homologous with the polypeptide having an amino acid sequence of residues 32-490 of SEQ ID NO: 2.

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- 17 90. The mannanase of claim 74, which has a molecular weight of 34 +/- 10 kDa, as determined by SDS-PAGE.

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18 91. The mannanase of claim <sup>1</sup>~~74~~, which has an N-terminal amino acid sequence of ANSGFYVSGTTLYDANG (amino acids 32-48 of SEQ ID NO: 2).

19 92. The mannanase of claim <sup>1</sup>~~74~~ which is a *Bacillus* mannanase.

70 93. The mannanase of claim <sup>19</sup>~~92~~, which is a *Bacillus* sp. 1633 mannanase.

E20 21 94. An enzyme preparation comprising a mannanase of claim <sup>1</sup>~~74~~ and one or more enzymes selected from the group consisting of proteases, cellulases (endoglucanases), beta-glucanases, hemicellulases, lipases, peroxidases, laccases, alpha-amylases, glucoamylases, cutinases, pectinases, reductases, oxidases, phenoloxidases, ligninases, pullulanases, pectate lyases, xyloglucanases, xylanases, pectin acetyl esterases, polygalacturonases, rhamnogalacturonases, pectin lyases, other mannanases, pectin methylesterases, cellobiohydrolases, transglutaminases; and mixtures thereof.

22 95. A cleaning composition, comprising a mannanase of claim <sup>1</sup>~~74~~ and a surfactant.

23 96. A fabric softening composition, comprising a mannanase of claim <sup>1</sup>~~74~~, an enzyme selected from the group consisting of amylases, cellulases, lipases, pectin degrading enzymes, proteases and xyloglucanases, and a cationic surfactant comprising two long chain lengths.

24 97. The mannanase of claim <sup>1</sup>~~74~~, comprising an amino acid sequence which comprises a catalytic domain and a linker of amino acids 331-342 of SEQ ID NO: 2.

25 98. The mannanase of claim <sup>24</sup>~~97~~, which is a *Bacillus* mannanase.

26 27 99. An enzyme preparation comprising a mannanase of claim <sup>24</sup>~~97~~ and one or more enzymes selected from the group consisting of proteases, cellulases (endoglucanases), beta-glucanases, hemicellulases, lipases, peroxidases, laccases, alpha-amylases, glucoamylases, cutinases, pectinases, reductases, oxidases, phenoloxidases, ligninases, pullulanases, pectate lyases, xyloglucanases, xylanases, pectin acetyl esterases, polygalacturonases, rhamnogalacturonases, pectin lyases, other mannanases, pectin methylesterases, cellobiohydrolases, transglutaminases; and mixtures thereof.

- 27 100. A cleaning composition, comprising the mannanase of claim <sup>24</sup>97 and a surfactant.
- 28 101. A fabric softening composition, comprising a mannanase of claim <sup>24</sup>97, an enzyme selected from the group consisting of amylases, cellulases, lipases, pectin degrading enzymes, proteases and xyloglucanases, and a cationic surfactant comprising two long chain lengths.
- 29 102. The mannanase of claim <sup>1</sup>74, comprising a catalytic domain and a C-terminal region of amino acids 343-490 of SEQ ID NO: 2.
- 30 103. The mannanase of claim <sup>25</sup>102, which is a *Bacillus* mannanase.
- E20 31 104. An enzyme preparation comprising a mannanase of claim <sup>29</sup>102 and one or more enzymes selected from the group consisting of proteases, cellulases (endoglucanases), beta-glucanases, hemicellulases, lipases, peroxidases, laccases, alpha-amylases, glucoamylases, cutinases, pectinases, reductases, oxidases, phenoloxidases, ligninases, pullulanases, pectate lyases, xyloglucanases, xylanases, pectin acetyl esterases, polygalacturonases, rhamnogalacturonases, pectin lyases, other mannanases, pectin methylesterases, cellobiohydrolases, transglutaminases; and mixtures thereof.
- 32 105. A cleaning composition, comprising the mannanase of claim <sup>29</sup>102 and a surfactant.
- 33 106. A fabric softening composition, comprising the mannanase of claim <sup>29</sup>102, an enzyme selected from the group consisting of amylases, cellulases, lipases, pectin degrading enzymes, proteases and xyloglucanases, and a cationic surfactant comprising two long chain lengths.

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